

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

- 5 1 (currently amended): A multifunctional optical device, comprising:  
a switch for switching the multifunctional optical device between a mouse mode,  
a camera mode, and a scanner mode;  
an optical sensor array comprising a plurality of optical sensors for generating a  
captured image capturing images and providing image information, wherein  
10 each optical sensor in the optical sensor array provides the image  
information for a first color, and wherein only optical sensors providing  
image information for the first color are activated when the multifunction  
optical device is in the mouse mode;  
a processor for receiving the captured image and the image information from the  
15 optical sensor array and generating processed data, wherein the processor  
generates the processed data by calculating a location address according to  
the captured image if the multifunctional optical device is in the mouse  
mode, the processor generates the processed data according to ~~processes~~ the  
captured image if the multifunctional optical device is in the camera mode,  
20 and the processor generates the processed data according to the captured  
image by combining ~~combines~~ a set of linear images if the multifunctional  
optical device is in the scanner mode; and  
an interface port for interfacing the multifunctional optical device with a host  
computer and for outputting the processed data from the processor to the  
25 host computer.
- 2 (currently amended): The multifunctional optical device of claim 1 wherein ~~each~~  
optical sensor in the optical sensor array ~~provides image information for only one~~  
color the first color is selected from a group of at least three component colors.

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3 (currently amended): The multifunctional optical device of claim 2, wherein ~~only~~  
~~optical sensors providing image information for a first color are activated~~ other  
optical sensors providing image information for a second color and a third color  
are deactivated when the multifunction optical device is in the mouse mode.

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4 (original): The multifunctional optical device of claim 1 wherein the optical sensor  
array is logically divided into a plurality of blocks of optical sensors, and when  
the multifunctional optical device is in the scanner mode, successive blocks of  
optical sensors are sequentially activated to capture the set of linear images.

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5 (original): The multifunctional optical device of claim 1 further comprising a  
memory for storing device settings of the multifunctional optical device and for  
temporarily storing images captured by the optical sensor array.

15 6 (currently amended): The multifunctional optical device of claim 1 further  
comprising a first light source for illuminating a surface on which the  
multifunctional optical device is placed with light of ~~[[a]]~~ the first color when the  
multifunctional optical device is in the mouse mode.

20 7 (currently amended): The multifunctional optical device of ~~claim 4~~ claim 6 further  
comprising a second light source for illuminating a surface on which the  
multifunctional optical device is placed with light of a second color when the  
multifunctional optical device is in the scanner mode.

25 8 (original): The multifunctional optical device of claim 1 wherein the processor is a  
digital signal processor (DSP).

9 (original): The multifunctional optical device of claim 1 wherein the optical sensor  
array is a charge coupled device (CCD).

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10 (original): The multifunctional optical device of claim 1 wherein the optical sensor array is a complimentary metal oxide semiconductor (CMOS) optical sensor array.

5 11 (original): The multifunctional optical device of claim 1 wherein the interface port interfaces with the host computer through a communication protocol selected from a group consisting of IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, Bluetooth, USB, PS/2, and IEEE 1394.

10 12 (currently amended): A multifunctional optical device, comprising:  
a switch for switching the multifunctional optical device between a mouse mode, a camera mode, and a scanner mode;  
an optical sensor array comprising a plurality of optical sensors for generating a captured image capturing images and providing image information, wherein  
15 each optical sensor in the optical sensor array provides image information for only one color selected from a group of at least three component colors, and wherein only optical sensors providing image information for a first color are activated when the multifunction optical device is in the mouse mode;  
20 a processor for receiving the captured image and the image information from the optical sensor array and generating processed data, wherein the processor generates the processed data by calculating a location address according to the captured image if the multifunctional optical device is in the mouse mode, the processor generates the processed data according to ~~processes the~~  
25 captured image if the multifunctional optical device is in the camera mode, and the processor generates the processed data according to the captured image by combining ~~combines~~ a set of linear images if the multifunctional optical device is in the scanner mode;  
a memory for storing device settings of the multifunctional optical device and for  
30 temporarily storing images captured by the optical sensor array; and

an interface port for interfacing the multifunctional optical device with a host computer and for outputting the processed data from the processor to the host computer.

5 13 (cancelled).

14 (original): The multifunctional optical device of claim 12 wherein the optical sensor array is logically divided into a plurality of blocks of optical sensors, and when the multifunctional optical device is in the scanner mode, successive blocks  
10 of optical sensors are sequentially activated to capture the set of linear images.

15 (currently amended): The multifunctional optical device of claim 12 further comprising a first light source for illuminating a surface on which the multifunctional optical device is placed with light of ~~[[a]]~~ the first color when the  
15 multifunctional optical device is in the mouse mode.

16 (currently amended): The multifunctional optical device of ~~claim 12~~ claim 15 further comprising a second light source for illuminating a surface on which the multifunctional optical device is placed with light of a second color when the  
20 multifunctional optical device is in the scanner mode, wherein the second color is different from the first color.

17 (original): The multifunctional optical device of claim 12 wherein the processor is a digital signal processor (DSP).  
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18 (original): The multifunctional optical device of claim 12 wherein the optical sensor array is a charge coupled device (CCD).

19 (original): The multifunctional optical device of claim 12 wherein the optical  
30 sensor array is a complimentary metal oxide semiconductor (CMOS) optical

sensor array.

- 20 (original): The multifunctional optical device of claim 12 wherein the interface port  
interfaces with the host computer through a communication protocol selected  
5 from a group consisting of IEEE 802.11a, IEEE 802.11b, IEEE 802.11g,  
Bluetooth, USB, PS/2, and IEEE 1394.